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U. S. DEPARTMENT OF AGRICULTURE,
STATES RELATIONS SERVICE.

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U. S. DEPT. OF AGRICULTURE

A. C. TRUE, Director.

**HOW TEACHERS IN RURAL ELEMENTARY SCHOOLS MAY USE
FARMERS' BULLETIN 755, COMMON BIRDS OF SOUTH-
EASTERN UNITED STATES IN RELATION TO AGRICULTURE.**

Range of use.—The southeastern part of the United States, including North Carolina, South Carolina, Georgia, Florida, Alabama, Tennessee, Mississippi, Arkansas, Louisiana, eastern Oklahoma, eastern Texas, and small portions of adjoining States.

Relation to the courses of study.—This bulletin is especially valuable in connection with the study of elementary agriculture as it relates to the control of economic insects. In connection with nature-study work this bulletin will prove especially helpful.

Topics in agriculture.—(1) Cotton—insect enemies and birds that destroy them, pp. 1–3; (2) corn and other grains—insect enemies and birds that destroy them, pp. 3–4; (3) forage crops—insect enemies and birds that destroy them, pp. 4–5; (4) truck crops, p. 5.

Study questions.—Topic 1: Make a list of the insect enemies of cotton found in the community. Compare this list with the insect enemies of cotton mentioned in the bulletin. What birds mentioned as enemies of each of the local insects are found in the community? Make a list of these birds in the order of their value as insect destroyers.

Topic 2: Name in the order of importance the insect pests that attack corn. Make a list of the insect enemies of corn found in the community. In what way does each kind of insect injure corn? What birds named in the bulletin destroy each kind of insect? Which of these birds are found in the community?

Topic 3: What insects attack clover plants? Are such insects found in the community? In what way does each damage clover? List the names of birds that destroy each kind of insect. Which of these are found in the community? Make a list of other forage crops grown in the community; also list the insect enemies of each of these plants. What birds destroy these insects?

Topic 4: What evidence is there that garden and orchard insects are destroyed by birds? What insects do most damage to gardens and orchards of the community? What birds are seen most frequently in gardens and orchards?

General questions: Make a list of the birds that are believed to do injury to field, orchard, and garden crops, stating opposite the name of each bird the crop damaged and the nature of the damage. Do the names of these birds appear in the lists of insect-destroying birds? Compare the damage and good done by these birds. Should they be protected? What is the attitude of the people of the community toward the protection of birds?

Nature-study topics.—(1) Study the birds named in the bulletin that are found in the community after the following outline:

1. General form, size, and appearance.
2. Color—head, throat, back, breast, tail of both sexes.
3. Food and how procured.

4. Manner of flight—slow, rapid, direct, soaring, sailing, flapping, undulating.

5. Disposition—alert, pensive; social, solitary; wary, unsuspicious.

6. Nesting—location, kind.

7. Resident, migrant.

8. Places frequented—woods, fields, swamps, yards.

9. Kinds of songs, notes, calls, etc. Learn to imitate.

10. Useful, how? Harmful, how?

(2) Classify the birds according to their method of catching insects. The following groups may be recognized: (1) Those that secure their food by climbing over the trunks and branches of trees; (2) those that chisel into dead or living wood; (3) those that feed upon insects living among the foliage and smaller branches; (4) those that get their food largely on or near the ground; (5) those that catch insects while on the wing either by darting out momentarily from some perch or by sailing in the air for longer periods.

(3) Classify all birds found in the community under the following groups: (a) Permanent residents, (b) summer residents, (c) winter residents, and (d) transients. Note in connection with each migratory bird the dates of its arrival and departure.

Illustrative material.—Secure colored pictures of birds and place them at conspicuous points in the schoolroom. Abandoned nests should be collected for study. Make and preserve bird drawings.

Practical exercises.—Make and set up on the school grounds bird houses, protected feeding places, and drinking fountains. Encourage birds to visit the school grounds by providing them food, especially in cold or stormy weather. Such small seeds as those of millet, hemp, buckwheat, sunflower, bits of suet, and even lunch scraps are suitable articles of food for birds. Visits to places frequented by birds should be made for the purpose of securing the information called for in topics for study. All information should be carefully copied in well-bound notebooks.

Correlations.—Language work is provided in keeping records of information concerning bird studies. Interesting drawing exercises are provided by outlining and coloring the various birds studied. Locate on the map the summer and winter homes of migratory or transient birds. Compare these sections, States, or countries with reference to climate, people, industries, etc. By referring to the bulletin much valuable material may be found, from which exercises in arithmetic may be developed. The following serve as examples: (1) If one bird eats on an average of 50 insects per day and there is an average of two birds per acre, how many insects are consumed per day on an 80-acre farm? How many are consumed in 30 days? (2) If there is an average of one bird per acre throughout the State, how many birds in the State? How many insects would be destroyed by all the birds of the State during the months of May, June, July, August, and September?

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